

CLAIMS

1. A process for regulating voltage applied by a voltage regulator (27) to an integrated circuit (13), comprising the steps of :
5 - measuring instantaneous power consumption inside of the integrated circuit; and
- regulating said voltage according to the measured instantaneous power.

2. The process of claim 1, wherein the integrated circuit comprises at least two units (14, 16, 18 20, 22) and wherein the step of measuring comprises :
10 - sensing power consumption in at least two of said units, and
- computing instantaneous power consumption inside of the integrated circuit according to the sensed power consumption in said units.

3. The process of claim 2, wherein the step of sensing power consumption in a unit comprises detecting state changes in signals output by said unit.

15 4. The process of claim 2 or 3, wherein the step of computing comprises :
- weighting the power consumption sensed in said units; and
- adding the weighted power consumption of said units.

5. The process of one of claims 1 to 4, wherein said step of regulating comprises :
20 - computing the derivative with respect to time of the measured instantaneous power, and
- regulating said voltage according to said computed derivative.

6. An integrated circuit (13) comprising at least one unit (14, 16, 18 20, 22) provided with a sensor (15, 17, 19, 21, 23) for measuring power consumption and a power calculation unit (25) for receiving the power consumption measured by each of said sensors and computing a power consumption for the circuit.
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7. The circuit of claim 6, wherein said power calculation unit computes power consumption for the circuit by weighting the power consumption measured by each of said sensors with weights; and by adding the weighted power consumption, and wherein the weights are stored in said integrated circuits.

30 8. The circuit of claim 6 or 7, wherein said sensor (15, 17, 19, 21, 23) detects state change in signals output by said unit.

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9. A combination of a circuit according to claim 6, 7 or 8 with a voltage regulator (25), said voltage regulator being connected to said circuit and receiving the power consumption computed by power calculation unit (25).